

Farzan Bhuiyan

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EDUCATION

University of Waterloo

Waterloo, ON

Bachelor of Computer Science (Honours), Minor in Combinatorics and Optimization

Sept 2021 – Apr 2026

Achievements: 3x Term Distinction, MIT Hackathon 1st Track Prize - **\$2000USD**, DocuSign Good Code 2nd Place - **\$5000USD**

Relevant Coursework: OOP, Algorithms, Databases, OS, Compilers, Distributed Systems, Linear Algebra, Optimization

EXPERIENCE

Ripple

Sept 2024 – Dec 2024

Software Engineer Intern - AI and Data Platform

San Francisco, CA

- Developing optimized query rewrites with ML models and LLMs on Dbx jobs to reduce cost and speed of data pipelines
- Spearheading centralized LLM infrastructure serving on MosaicAI to securely develop and bring up internal GenAI apps

Tesla

May 2024 – Aug 2024

Software Engineer Intern - Build Systems Infrastructure

Palo Alto, CA

- Architected and implemented a **TypeScript**-based service to perform concurrent merges across **100+** branches on monorepos, reducing time to ship vehicle software by **3-5x** and improving memory utilization from **128 cores** to **8 cores** on a single VM
- Designed and tested various graphing algorithms to find an optimal merging strategy for concurrently executable branch paths
- Enhanced performance by deploying on **Kubernetes** and managing merges in parallel with **RabbitMQ** for **3x** the throughput
- Engineered a **Ruby on Rails** MVC architecture for failure notifications, improving reliability for **1000+** daily merge events
- Developed Rails API endpoints to monitor merge status across **100+** branches, reducing conflict resolution time by over **50%**
- Gained exposure to distributed compute systems using **Slurm/LSF** schedulers to efficiently handle large-scale compute loads

Rodan Energy

Sept 2023 - Dec 2023

Software Engineer Intern - Markets Dashboard

Toronto, ON

- Developed time-series energy forecasts with ML algorithms (XGBoost, Regression Forest, RNN) achieving a MAPE of **<2%**
- Integrated new frontend tools to remove **154 npm vulnerabilities**, cut build times by **62%** and launch dev server **135x faster**
- Eliminated interval data refreshes by integrating **Redis** and **Django Channels** to provide live data updates with websockets
- Refactored an internal **Python** dependency for API servers and ORM code in **Django** to cut page response times by **47%**
- Updated **200+ Vue.js components** and migrated **25K+ lines of JavaScript** to **TypeScript** for better developer experience

NCR Corporation

Jan 2023 – Apr 2023

Software Engineer Intern - Channel Services Platform

Waterloo, ON

- Built backend APIs for money movement on Teller software servicing **200M+** bank users on **Spring Boot** microservices
- Played a pivotal role in building a robust work management microservice with **Java**, **Kafka**, **Kubernetes** and **Cassandra**
- Leveraged a **Java/Maven** internal tool to build and debug RESTful API endpoints with **swagger/OpenAPI** specifications
- Designed comprehensive, automated E2E and **JUnit** tests using **Java Spring Framework** with over **85%** code coverage

Questrade

May 2022 – Aug 2022

Software Engineer Intern - Core Systems/Data Engineering

Toronto, ON

- Built ETL pipeline with **Dataflow** and **Apache Beam** to load **200K+ rows** of market data daily on a **Cloud MySQL** server
- Orchestrated data workflows with **Apache Airflow** and used **Datadog** to measure a **20% reduction in processing times**
- Designed a multi-threaded client-server protocol in **Python** for trading with **<1ms latency** and integrated with **BigQuery**
- Wrote an **MS SQL** stored procedure for client removal requests, used internally by **50+ DBAs and Software Engineers**

WATonomous

Sept 2022 – Dec 2022

Perception Software Developer - Radar Sensors

Waterloo, ON

- Worked on radar point cloud processing for autonomous vehicles writing code for radar sensors in **C++**, **ROS2** and **OpenCV**
- Improved human-vehicle classification accuracy by **8%** with an 11-vector SVM classifier with accelerated GPU inference

TECHNICAL SKILLS

Languages: Python, C++, C, TypeScript, Java, Ruby **Frameworks:** React, Vue, Node, Django, Flask, Spring, Rails, TensorFlow

Data: SQL, Kafka, Redis, RabbitMQ, Airflow, Hadoop, Spark **Infra:** Git, Docker, Kubernetes, Linux, GCP, AWS, Azure, Jenkins